

RUBBER TRACK UNDERCARRIAGE MANAGEMENT FOR **CAT® MINI HYDRAULIC EXCAVATORS**



**GUIDELINES FOR ACHIEVING OPTIMAL
PERFORMANCE AND LONGEVITY**





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INTRODUCTION

Caterpillar designs and builds the robust undercarriage for the Cat® mini hydraulic excavator (MHE) that sets it apart from other competitive mini hydraulic excavators. The simple design lowers the machine's sensitivity to challenging underfoot conditions and adverse operation. This means the MHE undercarriage is designed to fit your need for unmatched traction, flotation, productivity and versatility in a wide range of environments.

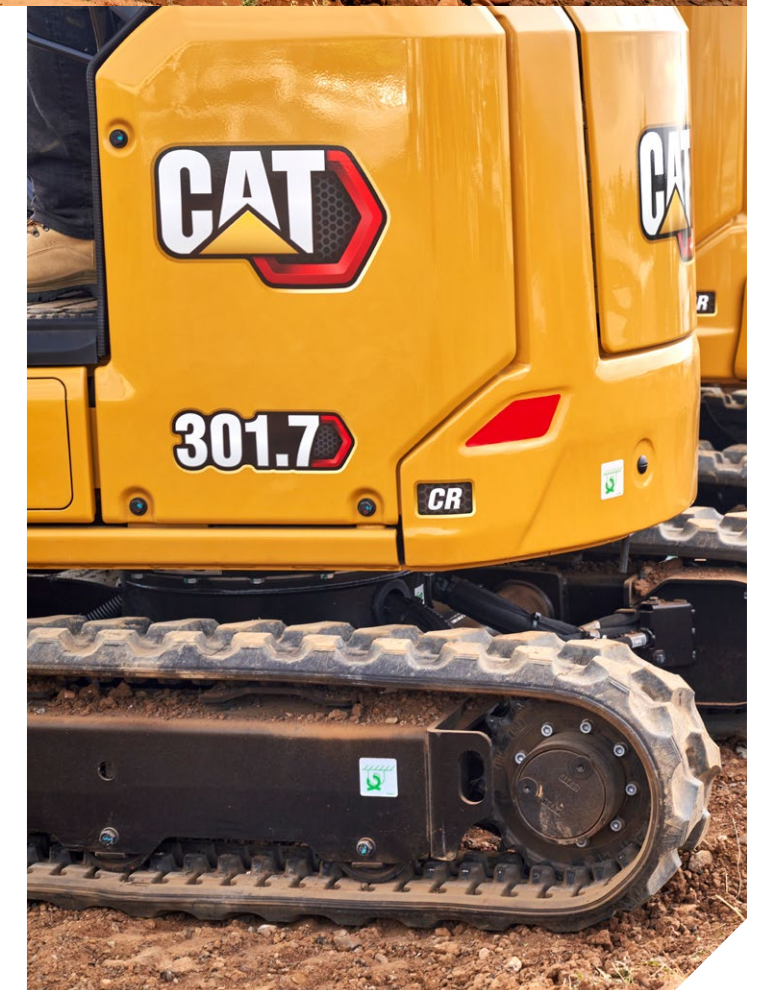
This management guide offers information, tips and suggestions, but it is not intended as a technical manual or a substitute for the advice and recommendations of our parts and service experts. By referencing this manual and following the recommendations in your Operation and Maintenance Manual, you can help maximize the productivity, service life and value of your Cat mini hydraulic excavator.



MANAGE IT WELL. MAKE IT LAST.

This guide gives you the tools to help get maximum value from your Cat mini hydraulic excavator. Understanding how the undercarriage works and wears can help you minimize wear and keep operating costs down.

Following proper operation and maintenance guidelines puts you in control of the life and performance of your investment. And your Cat dealer is available to answer questions and provide whatever help you need.



UNDERCARRIAGE DESIGN AND FUNCTION

The steel-embedded rubber tracks on Cat mini hydraulic excavators do more than provide excellent traction control. Their unique design also contributes to high flotation, low ground pressure, machine stability, and a smooth ride.

Low owning and operating costs are attributable to the rubber-and-steel undercarriage that contains specialized components. The undercarriage is designed to work as a complete system to ensure you can travel and work effectively under various underfoot conditions.



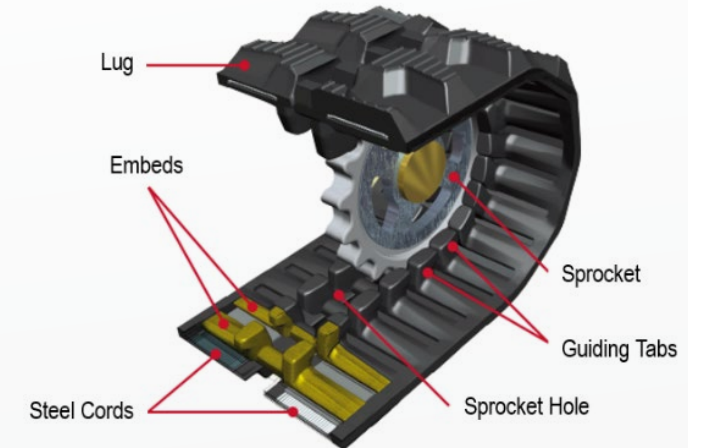
STEEL-EMBEDDED RUBBER TRACK

Cat mini hydraulic excavators use a steel embedded rubber track. This industry-standard track assembly relies on a system of embedded steel bars bound together with steel cords, which provide the strength and durability required for the undercarriage. A rubber track's footprint provides lower ground pressures and less ground disturbance to sensitive surfaces when compared to an excavator with steel tracks.

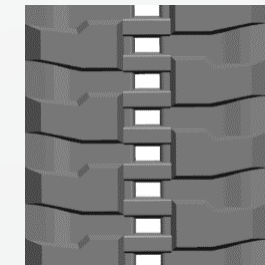
The steel embeds encased within the rubber track ensure rigid support from the entire width of the track. The steel cords that connect these embeds provide tensile strength to reduce the risk of stretch in the track. Each of the steel embeds have tabs, perpendicular to the track width. These provide a method for track guiding to reduce the risk of track slip or de-track. The rubber track is constructed of an anti-gouge rubber compound for maximum cut resistance. This helps increase the durability of the track and allows for operation in a variety of applications and underfoot conditions.

The Cat mini hydraulic excavator rubber track is a tough, durable component, but improper use can dramatically increase wear and owning and operating costs. Working in severe applications – such as demolition, quarry, or scrap, where the undercarriage is exposed to sharp, ragged edges – can significantly impact track and undercarriage component life.

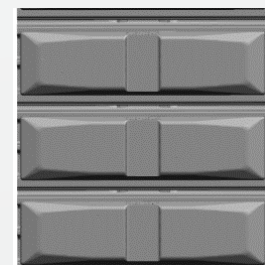
The steel-embedded rubber tracks⁽¹⁾ used on Cat mini hydraulic excavators are specially designed for durability in challenging environments. There is one type of rubber track tread pattern available for Cat mini hydraulic excavators. In addition to the rubber track offering there is also a steel track with rubber pad option⁽²⁾. This type of track provides a smoother ride and reduced ground disturbance compared to traditional steel tracks. Steel tracks with rubber pads are great for customers looking for the versatility of rubber tracks and lower Operation and Maintenance (O&M) costs. The rubber track is a great solution for customers desiring a durable all-purpose track that will perform in a wide variety of underfoot conditions. This type of track also provides reduced ground disturbance compared to steel tracks.



(1) MHE Rubber Track



(2) MHE Steel Track with Rubber Pads



The steel track with rubber pads does not utilize steel embeds, as this type of track functions as a traditional steel track with rubber pads that are bolted to the track shoes. Rubber tracks, on the other hand, do utilize steel embeds. These embeds provide rigid support throughout the width of the track, distributing the weight of the machine over more area and reducing ground pressure. The embeds mate with the drive sprocket and transfer torque to ground. Guide tabs on each embed keep the track aligned by following the path provided by track rollers and idlers. The embeds provide a smooth and even rolling surface for track rollers and idlers. Internal steel cords keep the track from stretching when the track is tensioned.

The tension at which the track is maintained is important, but the system does not depend on high tension to drive the track. Some slack in the track is normal. The Operation and Maintenance Manual that came with your Cat mini hydraulic excavator will specify the proper track tension and tensioning procedure.

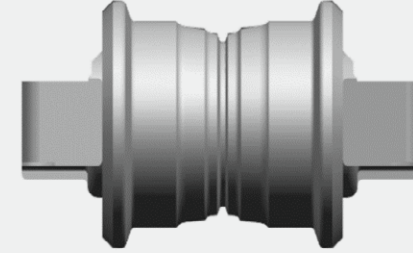
Tensioning of the track is easily done using a simple recoil grease tensioner. The MHE undercarriage performs best when tensioned correctly, as improperly maintained tracks can lead to premature wear of all drive components. Periodic monitoring of tension will result in the best performance of both the undercarriage and the machine.

Cat rubber tracks are designed to provide a smooth ride, low ground disturbance, and excellent traction.

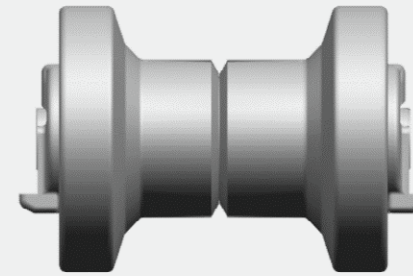


MINI HEX RUBBER TRACK

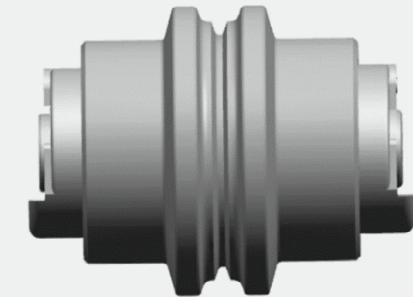
Single Flange Track-Roller



Double or Dual Flange Track Roller



Center Flange Track Roller



Carrier Roller



DRIVE SYSTEM

Cat mini hydraulic excavators use external positive drive to transfer tractive effort from the powertrain to the track. Drive motors independently drive sprockets on the left and right side undercarriage. The drive sprocket is horizontal with the idler like all excavators. These sprockets engage the steel embeds to drive the tracks, which provides movement for the machine. Due to metal-on-metal contact between the sprocket and steel embeds, wear on these components is to be expected. When replacing a track, it's a good idea to ask whether or not sprocket replacement is required. Sprocket teeth wear on opposing sides in forward and reverse. Always consult the machine's Operation and Maintenance Manual for detailed wear and replacement guides.

Like all excavators, Cat mini hydraulic excavators are susceptible to material build up within the undercarriage. This means it is important to keep drive components free of dirt and debris buildup in order to increase the longevity of these components. Because of this, periodic cleaning of the undercarriage area is recommended to help minimize owning and operating costs.

Planetary drive motors help increase the pushing power, or torque for the MHE, ensuring the machine can be successfully operated within a variety of applications and underfoot conditions. The two-speed system allows for faster transportation between working areas.

ROLLER WHEELS AND IDLERS

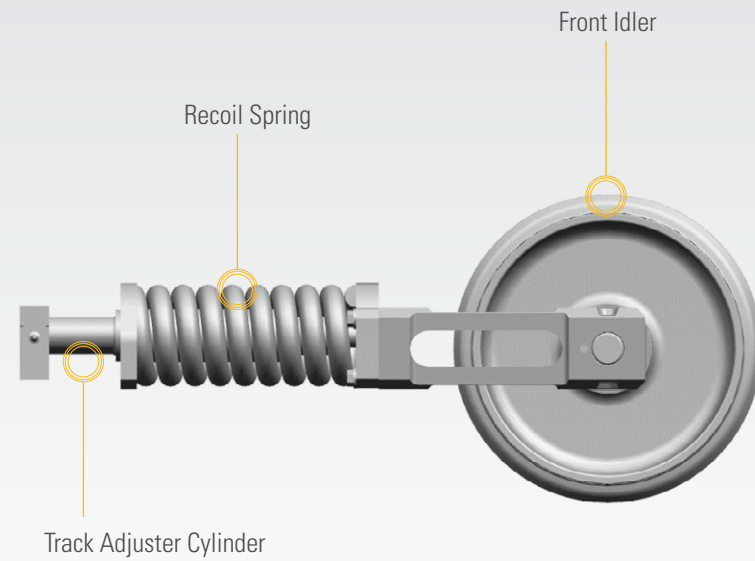
The Cat mini hydraulic excavator has a simple and proven undercarriage roller system containing permanently sealed and lubricated track rollers. Single, double (or dual), and center flange undercarriage rollers are utilized on Cat mini hydraulic excavators. The type of rollers utilized vary depending on the type of the track and machine model. The front idler on the MHE is a single web center flange design. These rolling undercarriage components transfer the machine's weight to the steel embeds within the rubber track. As previously mentioned, the steel embeds are located in the rubber track and they transfer the load over the width of the track to ensure low ground contact pressure and high flotation. The rollers and idlers also provide excellent durability in adverse conditions, such as operation in abrasive underfoot conditions or where high material ingestion is an issue.

RECOIL

Track tensioning for the Cat mini excavator is a straightforward process. The undercarriage uses a recoil grease tensioner. This tensioning system consists of a recoil spring connected with the front idler on one side and the track adjuster cylinder on the other. The configuration varies slightly between MHE models, but in general this is the layout for most MHE recoil systems.

The recoil spring allows the idler to compress under high loads. This recoil system protects the rest of the undercarriage by absorbing and dissipating front impacts. Additionally, it prevents debris trapped in undercarriage components from stretching and damaging the track. The spring restores the idler after an impact event or upon removal of trapped debris.

With the steel embed type track, correct track tension is crucial. If a track is incorrectly tensioned, it may compromise the life of the track and some of the undercarriage components. As a result, it is crucial to have the track tensioned to the correct specification. Please see the machine Operation and Maintenance Manual for details regarding checking and adjusting the track tension.



FACTORS AFFECTING UNDERCARRIAGE WEAR

Several factors affect how fast a Cat mini hydraulic excavator undercarriage wears. The key to maximizing productivity and service life of undercarriage components is to recognize these factors and make adjustments whenever possible to minimize their effect.





APPLICATION

The job application of a machine has a direct influence on undercarriage life. Common applications include general excavation, trenching, grading, mulching, craning, demolition, and auger work.

The amount of torque, horsepower, and machine travel required by an application has a direct impact on undercarriage component wear. Working any piece of equipment to its fullest potential will cause maximum wear on certain components. In general, applications – such as dozing/backfilling with the blade fully loaded – maximize the torque and horsepower being transferred through the sprocket to the tracks and can cause increased wear. Applications where substantial travel is required from work site to work site will increase wear on undercarriage components. Easier, less demanding jobs – like bucket finish grading with the linkage – that require less torque, horsepower, and movement will result in less undercarriage component wear.

UNDERFOOT CONDITIONS

The material you work in can have as much or more of an impact on the service life of Cat MHE undercarriage components than some applications. In general, the more abrasive the material, the faster components wear. As an example, rocky, jagged material or construction debris can cause accelerated wear on some components of an undercarriage. Working on soft, loamy soil can reduce wear. When working on non-abrasive surfaces, such as turf and finished landscaping, there is generally reduced component wear.

Because they have high flotation, traction, and versatility, Cat mini hydraulic excavators will work on any material, including scrap or demolition debris; however, harsh conditions may cause significant premature wear on the undercarriage. Consider the cost of replacing undercarriage components when working on any abrasive materials.



OPERATING TECHNIQUES

Proper operation of the Cat mini hydraulic excavator is one of the most influential factors in undercarriage wear and operating costs.

Aggressive operation may help get the job done faster, but it can also increase the rate of wear and overall operating costs. For example, making a quick change in travel direction by counter-rotating, can ingest material into the undercarriage and may cause unnecessary wear on the tracks and undercarriage components. Three-point turns are a good way of turning, when practical. Turning without counter-rotating may take more time, but can extend the service life of undercarriage components.

Only counter-rotate when necessary. Operating at the minimum ground speed required to complete the task will extend the service life of the track. The two-speed functionality allows for increased productivity on the job site and should be used when needed. However, constant high-speed operation may accelerate undercarriage component wear. Additionally, operating and traveling over the idler side of the machine (versus the sprocket side) is recommended to ensure proper recoil system functionality. This will reduce the risk of de-tracking and component damage when debris enters the undercarriage.

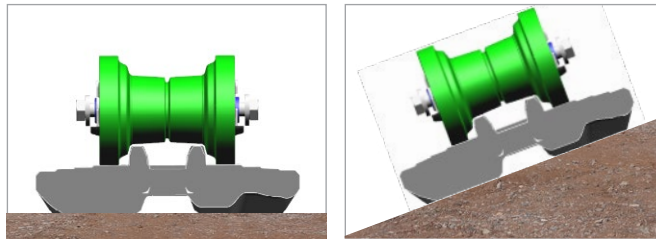
Operating on slopes also accelerates wear. Adjust operating technique when on slopes to reduce wear. For more information, see the section on Operating for Minimal Wear and Best Results.

The terrain type – hilly, bumpy, or flat – is another wear factor to consider. Operating a mini hydraulic excavator on a level surface can cause the least undercarriage wear, whereas working on rugged, heavily sloped terrain can cause components to wear faster.

Cat mini hydraulic excavators are designed to be able to operate continuously on slopes. However, it is not recommended to operate on excessively steep slopes. Operating on slopes of this nature will negatively impact machine stability and engine life. This can also create an unsafe work environment for the operator. When working on slopes, consider travel speed, roughness of terrain, travel direction, mounted equipment, nature of the surface, surface material, slippage due to excessive loads, width of tracks, height of working load, and machine systems that have limitations on slopes. Review the Operation and Maintenance Manual for more details and other points to consider during slope operation.

OPERATING FOR REDUCED WEAR AND BEST RESULTS

MAINTENANCE PRACTICES



On a flat surface (left image), the track supports the full downward weight of the machine. However, on slopes (right image), machine weight causes side loading and wear on rollers, idler, sprocket, and guiding surfaces of the track. Uneven or excessive wear to the edge of guide tabs or rollers and idler wheels are usually attributable to operating on slopes and is normal. Adjust operating technique when on slopes to reduce wear. For more information, see the section on Operating for Minimal Wear and Best Results. In addition, consult the Operation and Maintenance Manual for proper machine operation on slopes.

The mini hydraulic excavator undercarriage is not high-maintenance; however, following some simple preventive maintenance procedures helps maximize service life and the value of your undercarriage components. It's recommended to perform regular visual inspections of the undercarriage, looking for abnormal component wear, excessive material build up, leaks, or loose mounting bolts. Review the Operation and Maintenance Manual for more details on this undercarriage check.

A properly adjusted track helps maximize track service life and machine performance. Loose or overly tight tracks reduce service life and machine performance. See the following section on Track Tension and Adjustments (page 17) for more information.

Cleanliness of the machine's undercarriage is also critical. Much of the wear to an undercarriage is caused by debris lodged between components. Some unnecessary wear can be avoided by keeping the undercarriage free of debris. See the section on Undercarriage Cleanout for more information.

Cat mini hydraulic excavators are built to withstand the rigors of quick, aggressive operation. However, adjusting your operating technique is a proven way to increase undercarriage value and life. Operators familiar with wheeled equipment will quickly maximize a mini hydraulic excavator's productivity by taking advantage of additional traction, flotation, and stability. For operators new to using a tracked machine, it's important to remember that some adjustments in operating technique will improve results.

TURNING TECHNIQUES

Any operator who has experience with mini hydraulic excavators knows counter-rotating, as a regular means of turning, is the quickest way to change direction. It is also the quickest way to wear out tracks. Counter-rotating a MHE could lead to unnecessary wear on the tracks and other components.

To help maximize the life of a mini hydraulic excavator undercarriage, counter-rotations should be used only when required, such as in very confined areas. Instead, it is recommended to use more gradual, or three-point, turns while slowly moving in forward or reverse, as seen below.

Sharp turns on abrasive material, such as jagged rock, will cause premature wear to the track and roller wheels. Gradual turns will help minimize cuts and tears and help maximize undercarriage component life.

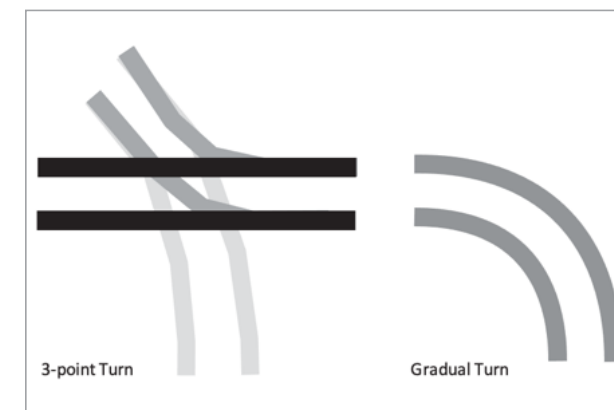
When turning on soft, sensitive surfaces, make gradual turns. Sharp turns and counter-rotations can cause scuffing and unwanted ground disturbance, and cause material to more easily enter the undercarriage.

WORKING ON SLOPES

With significantly more stability than a similarly sized wheeled machine, a mini hydraulic excavator is great for working on slopes. When it is necessary to travel across a slope, operate the machine in the safest possible manner. As mentioned earlier, working across slopes (Illus. 1) can also cause faster wear on undercarriage components. You can reduce unnecessary side-loading wear by operating up and down a slope, rather than across, whenever possible.



When working up and down a slope (Illus. 2), always keep the heaviest end of the machine uphill. Excavators are typically heavier in the rear end of the machine when the linkage is retracted and unloaded. Linkage position plays a key role in this type of movement as well. Traveling up or down a hill with the linkage extended out and high above the ground is not recommended and should be avoided. Also, avoid carrying extremely heavy loads and always keep loads as low as possible when moving. Keeping the linkage retracted and close to the ground is usually the best practice when traveling up and down steep hills. Consult the Operation and Maintenance Manual for proper machine operation on slopes.

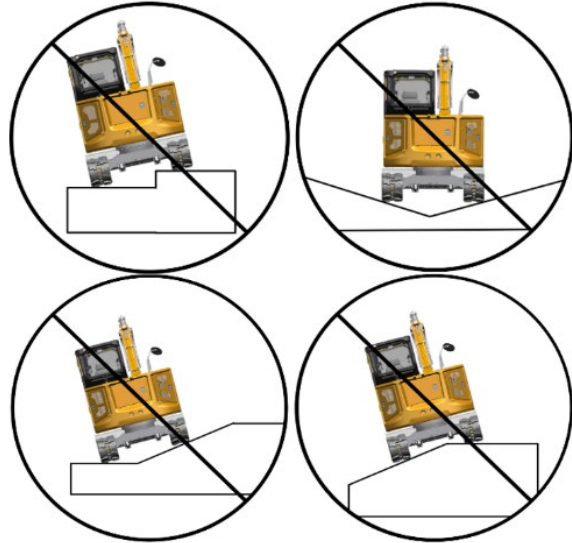


WORKING ON SLOPES CONT'D

Avoid making direct 90-degree turns when operating on a slope – either on a side hill or straight up and down. Sharp turns on slopes can cause unnecessary wear on track guide tabs and can shove material between the track and roller wheels. In some cases, this could lead to track derailment and track damage.

WORKING OVER TRANSITIONS

A transition is any place you encounter a change in slope or elevation, such as where a level surface changes to a slope. A curb or ledge can also be considered a transition. If you must travel over transitions, do so with the machine 90 degrees to the transition. Avoid working along a transition where one of the machine's tracks is not fully supported by the ground. Without the full support of the ground, the track and roller wheels are subjected to side stress that could lead to track derailment or track damage.



BACK DRAGGING / GRADING WITH BLADE

Some operators may apply enough down force with the blade to raise the front part of the tracks off the ground, maximizing down-pressure when back dragging/grading with the blade. This type of operation is not recommended and will cause you to lose traction, spin the track, and promote premature wear of the track and rear roller wheels.

Keeping the full length of track on the ground provides the most traction for operators. You can get excellent results and maximize the life of your undercarriage by back dragging with the blade, using the FLOAT function. If more down pressure is needed, the mini hydraulic excavator will allow for additional down pressure to be applied without raising the undercarriage off of the ground. Add only the pressure required to smooth the surface.

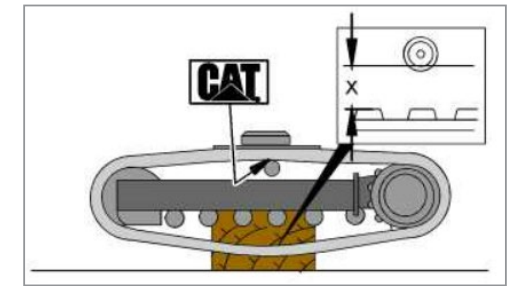
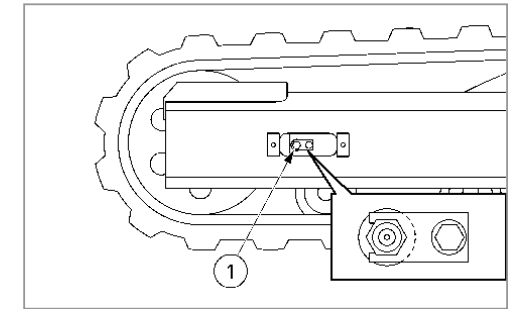


TRACK TENSION AND ADJUSTMENTS

The tracks on a Cat mini hydraulic excavator are critical components of the undercarriage. Proper track tension is recommended to help enhance performance and service life. Some slack in the track between the drive sprocket and front idler is normal.

Please refer to the Operation and Maintenance Manual for recommended methods of checking and adjusting track tension.

Once new tracks have been adjusted, they normally don't need constant readjustment. However, periodically check the track tension. Tracks that are run outside of the recommended tension specifications cause accelerated wear to undercarriage components. A track that is too loose can allow the track drive embeds to jump over sprocket teeth. This condition, called "ratcheting," can cause accelerated wear or damage to steel embeds or sprocket teeth. A track that is too tight can lead to accelerated undercarriage wear, premature failure of the tracks, power loss, or bearing failures. It's important to note that over-tensioning tracks (too tight) is not a solution for track derailments that result from improper operating techniques. Consult the Operation and Maintenance Manual for proper track tension, inspection and maintenance procedures and intervals.





MINI HEX RUBBER TRACK

UNDERCARRIAGE CLEAN-OUT

Your undercarriage is often exposed to mud, gravel, debris and other abrasive materials. Cleaning the undercarriage on a regular basis is recommended. How often the undercarriage needs to be cleaned depends on the material being worked in. A daily cleaning is normally sufficient. Cohesive and abrasive materials, like mud, sand, clay and gravel, should be cleaned out as often as possible, even several times a day, to reduce unnecessary wear to undercarriage components.

Pay particular attention to cleaning between roller and idler wheels and around the sprocket where material can accumulate. A pressure washer works well if available. If not, use a small shovel or similar tool to dislodge and remove foreign materials from the undercarriage; however, be careful not to damage any of the undercarriage parts. If working in scrap or debris, remove any loose strands of material, such as wire, that can wrap around rolling components.

Deciding when to clean the undercarriage can be a big factor in how easy or difficult the job will be. As an example, removing materials like mud at the end of the day is much easier than trying to remove it the next morning after it has dried.

In cold climates or whenever freezing temperatures are expected between work shifts, operate the machine in forward and in reverse before shutting it down, to reduce moisture and material build-up and to help prevent freeze-ups.



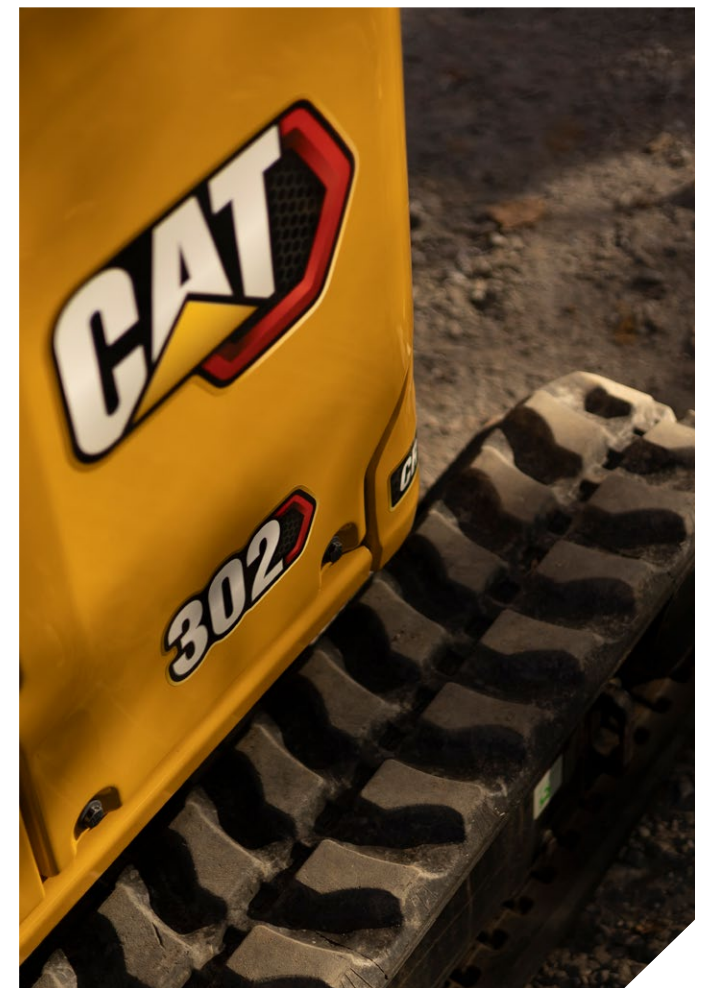
EVALUATION OF WORN COMPONENTS

PART REPLACEMENT

The replacement of worn components has a direct impact on the owning and operating costs of all equipment. Cat mini hydraulic excavator undercarriage components are all designed to provide optimum performance and service life. When they have reached the end of their service life, components should be replaced immediately. Failure to replace worn components can lead to accelerated wear or failure of other related components, leading to higher owning and operating costs. Conversely, replacing worn components before the end of their service life, even though they may appear rough and worn, can also unnecessarily increase owning and operating costs. It's important to be able to evaluate worn components as either useable or non-useable.

Your Cat dealer is your best resource for evaluating worn components on all Cat equipment. Whenever possible, have a trained technician advise you when components need replacement.

The following section contains information to help you understand key areas of your undercarriage that will wear during operation and how this wear is measured. By understanding how your undercarriage wears, you can work with your dealer to plan for component replacement alleviating unplanned downtime.



IDLER/ROLLER WHEELS

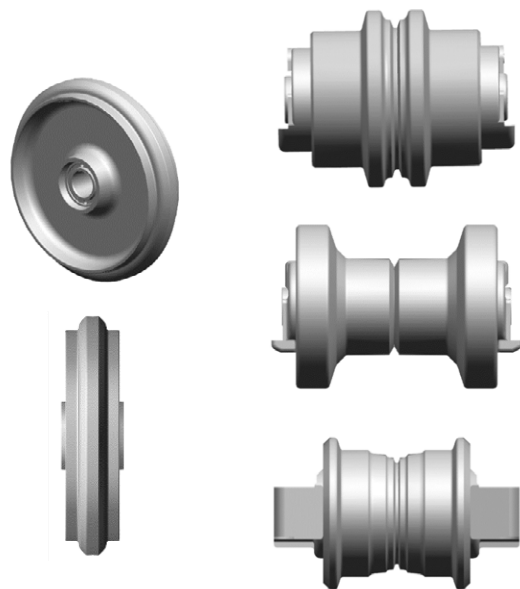
The key functions of undercarriage idler/roller wheels are:

- + To distribute weight of a machine from the frame to the track.
- + To guide the track.

Idler/Roller wheels are wear items and may likely need to be replaced at some point during the machine's life. Operation in abrasive conditions causes idlers and rollers to wear faster. If the wheels become damaged in a way that creates a sharp cutting edge or drastic unevenness, the wheel should be replaced immediately to prevent excess wear to the track. As long as roller wheels continue to function as described, there is no reason to replace them. Keeping the undercarriage free of rocks and debris helps reduce internal track wear caused by wheels grinding material against the track. A main function of the idlers and rollers is to guide the rubber track as it travels around the undercarriage. In some applications, the track guide tabs will contact the inner flange of the roller causing both the guide tab and roller or idler to wear.

Periodic checks of the roller thickness may indicate the need for a modification of machine operation to relieve the track guide tab interaction causing the wear.

Side hilling applications, underfoot conditions, counter rotations and roller/idler misalignments can impact this wear.

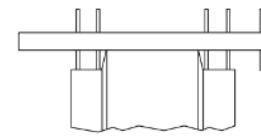


UNDERCARRIAGE COMPONENT WEAR MEASUREMENT TECHNIQUES

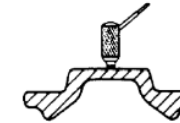
Measurements can be taken on many undercarriage components to evaluate the level of wear that has occurred with machine operation. The following measurement techniques are commonly used to evaluate idler, roller, steel track shoe, and steel track link wear.

IDLER WEAR MEASUREMENT TECHNIQUES

Depth Gauge Measurement



Ultrasonic Wear Indicator



ROLLER WEAR MEASUREMENT TECHNIQUES

Caliper Measurement

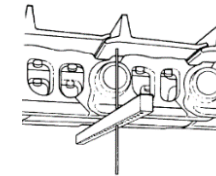


Depth Gauge Measurement



TRACK LINK WEAR MEASUREMENT TECHNIQUES

Depth Gauge Measurement

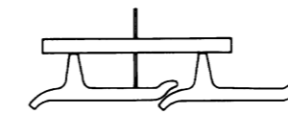


Ultrasonic Wear Indicator



TRACK SHOE WEAR MEASUREMENT TECHNIQUES

Depth Gauge Measurement



Ultrasonic Wear Indicator



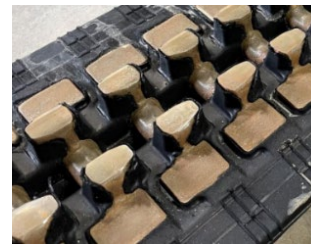


MINI HEX RUBBER TRACK

TRACK

Because of the wide range of applications, materials and operating techniques possible with a Cat mini hydraulic excavator, the service life of tracks may vary. Working in harsh materials can accelerate wear of the tracks, as does working continuously on slopes. In virtually all applications and materials, a set of tracks can develop scuffs, cracks, cuts, and missing rubber chunks. This is normal and does not necessarily degrade the performance of the machine. However, due to increased corrosive action, if at any time the embedded steel cording within the track is exposed, immediate repair is recommended. Excessive operation in this exposed state could lead to a costly and inconvenient component repair. Contact your local Cat dealer for repair information.

However, not all steel exposure in the undercarriage warrants repair. As Cat mini hydraulic excavators accumulate hours, steel-guide tabs may shed their rubber. This type of wear is normal and expected, and is part of the break-in process. The images below show what the tracks may look like when embeds shed their rubber.



Exposed Embeds
(Dual Flange Track Rollers Used)



Exposed Embeds
(Center Flange Track Rollers)

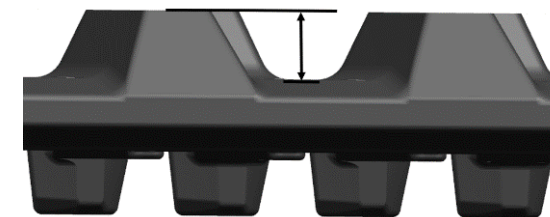
THE KEY CRITERIA FOR EVALUATING THE SERVICEABILITY OF A TRACK ARE:

- + A track must be able to maintain proper tension to be useable. A track that is torn or damaged to the extent that it can no longer maintain tension should be replaced.
- + Embeds should not continually skip over sprocket teeth or ratchet when the track is properly tensioned. If embeds continually ratchet because they are worn or damaged, the track and sprocket should be evaluated for possible replacement.



TRACK TREAD WEAR

This measurement will give an indication of the amount of wear that has occurred. The measurement should be taken from topmost portion of the tread lug to the lowest level on the top surface of the track. Underfoot conditions and operating techniques will impact this wear.



If tread depth is less than 5 mm, then the track should be replaced.

MHE TRACK TREAD WEAR HEIGHT (MM)				
LIFE	301.5 - 302	302.7 - 304	305 - 306	308
100%	23	25	25	30
75%	18.5	20	20	24
50%	14	15	15	17.5
25%	9.5	10	10	11
0%	5	5	5	5

DRIVE SPROCKET

The mini hydraulic excavator's drive sprockets transfer horsepower and torque from the drivetrain to the track. The sprocket will wear naturally against the steel embeds of the track. When replacing the track, it is a good idea to evaluate the sprocket for wear. The sprocket may need to be replaced at this time to help extend the life of the replacement track. Underfoot conditions, operation techniques, and maintaining proper track tension can impact this area for wear.



WORKING CONDITIONS – KEY OWNING & OPERATING (O&O) COST FACTORS

	APPLICATION	OPERATING TECHNIQUES	UNDERFOOT CONDITIONS	MAINTENANCE PRACTICES
1 – Excellent	Snow Material Handling Auger	3-point Turns Doesn't Spin Tracks Rubber Track Trained Operator	Snow Turf Concrete	Daily Cleaning, Track Tension Check, Inspection
2 – Good	Digging Grading Trenching	Stop Track Turns Pivot Turns Up & Down Slopes	Dirt Mud Clay	Weekly Cleaning, Track Tension Check, Inspection
3 – Poor	Dozing Cold Planning Forestry	Counter-rotating Loaded Turning Spinning Tracks	Milled Asphalt Rock 2" Dirt with 10-20% Rock	Monthly Cleaning, Track Tension Check, Inspection Loosely follow OMM*
4 – Bad	Recycling Demolition	Transition Turning Travel Over Curbs at Speed	Stone >2" Dirt with 20-50% Rock	Rare Cleaning, Track Tension Check, Inspection Do not know OMM*

Decreasing Impact on O&O

Increasing Impact on O&O

* Operation and Maintenance Manual





MINI HYDRAULIC EXCAVATORS

EXPECT MORE FROM THE EXPERTS

Increase the life of your undercarriage

To get the most out of your investment, it pays to know your undercarriage. Following the operating techniques and maintenance practices outlined in this guide can greatly extend service life. And your Cat dealer is ready to help – with parts and service solutions, or just some advice along the way. We're here to help you do your work.

Call your Cat dealer with questions about machine operation, maintenance or service.